

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application.

Claims 1 to 38 (Canceled).

39. (Currently Amended) A method of removing material from a body lumen, the method comprising:

delivering a catheter comprising a tissue debulking device to a target site in the body lumen;

deflecting a distal portion of the catheter relative to a proximal portion of the catheter to expose the tissue debulking device through a cutting window, the deflecting step being carried out by sliding the tissue debulking device against a cam surface to expose the tissue debulking device through the cutting window; and

debulking the body lumen by rotating the tissue debulking device about a first axis with the tissue debulking device being exposed through the cutting window in the catheter, the debulking step being carried out by advancing the catheter in the body lumen to move the rotating tissue debulking device and cutting window through material in the body lumen during the deflecting debulking step.

40. (Canceled).

41. (Canceled).

42. (Previously presented) The method of claim 39 wherein the first axis is a longitudinal axis of the catheter.

43. (Canceled).

44. (Original) The method of claim 39 further comprising packing severed material into a collection chamber.

45. (Original) The method of claim 39 wherein deflecting comprises urging the tissue debulking device against the material in the body lumen.

46. (Original) The method of claim 39 wherein delivering comprises attaching a guidewire to a monorail delivery assembly on the catheter.

47. (Original) The method of claim 39 wherein the target site is a stent.

48. (Original) The method of claim 39 wherein deflecting is carried out by moving the tissue debulking device from a first position to a second position.

Claims 49 to 61 (Canceled).

62. (Previously presented) A method of debulking a body lumen, the method comprising:

providing a catheter having a rotating cutter, a collection chamber, and a cutting window, the collection chamber being distal to the cutting window, the rotating cutter being movable between a stored position and an exposed position, at least part of the rotating cutter becoming exposed through the cutting window

when moving to the exposed position, the catheter also having means for rotating the cutter;

exposing the cutter by moving the cutter to the exposed position; and
advancing the catheter in a distal direction to move the rotating cutter through occlusive material in the body lumen while the rotating means rotates the cutter, the rotating cutter remaining in the exposed position so that the cutter and the window maintain their orientation with respect to one another when advancing the catheter through the occlusive material, the occlusive material cut by the rotating cutter being directed through the cutting window and into the collection chamber distal to the rotating cutter as the catheter is advanced in the distal direction through the occlusive material and while the cutter is exposed during the exposing step.

Claims 63 to 68 (Canceled).

69. (Currently amended) A method of removing material from a vascular location, comprising the steps of:

providing a debulking catheter having a body, an opening leading to a collection chamber, and a cutter, the collection chamber being distal to the opening, the cutter being movable between a stored position and an exposed position, the cutter becoming at least partially exposed when moving from the stored position to the exposed position, the catheter also having means for rotating the cutter;

introducing the debulking catheter into a patient's vascular system with the cutter in the stored position, the debulking catheter being introduced to a vascular location where material is to be removed;

exposing the cutter by moving the cutter to the exposed position;

rotating the cutter with the rotating means; and
advancing the debulking catheter in a distal direction after the exposing step and during the rotating step, wherein the rotating cutter and the opening advance together so that material cut by the rotating cutter is directed through the opening and into the collection chamber distal to the rotating cutter as the catheter is advanced, the cutter and the ~~window~~ opening maintaining their orientation with respect to one another when advancing the catheter through the occlusive material and while the cutter is exposed during the exposing step.

70. (Previously presented) The method of claim 69, wherein:
the advancing step is carried out with the rotating cutter remaining in the exposed position so that the cutter and opening move together while cutting the material from the vascular location.

71. (Previously presented) The method of claim 69, wherein:
the providing step is carried out with the opening being a side opening on the catheter; and
the moving step being carried out with part of the cutter becoming exposed through the side opening when moving to the exposed position.

72. (Previously presented) The method of claim 69, further comprising the step of:
urging the opening toward the area where material is to be removed;
the advancing step being carried out while urging the opening toward the area where material is to be removed.

73. (Canceled).

74. (Previously presented) The method of claim 62, wherein:
the providing step is carried out with the opening being a side opening on
the catheter; and

the moving step being carried out with part of the cutter becoming exposed
through the side opening when moving to the exposed position.

75. (Previously presented) The method of claim 62, wherein:
the providing step is carried out with the rotating means including a drive
shaft which couples the rotating cutter to a driver.

76. (Previously presented) The method of claim 69, wherein:
the providing step is carried out with the rotating means including a drive
shaft which couples the rotating cutter to a driver.